

mel



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D206-667-107BL
Job Sheet 192115



Part No: D206-667-107BL

Job Qty: 1 pcs

Part Name: Fwd Crosstube - Mid Height 206L / L1 / L3 / L4, Blue



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 3/18/19

Job Tracking No:

Due Date: 4/19/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG D206-667-147 REV.B/ IIN-D206-667 REV.D IPP REV:A 12.08.20 DSI9628 revA (ECN12-631) DD
VERF:JLM IPP REV:B 18.09.13 AS PER DWG REV:DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Packaging 1 - Pick Kit	1 pcs		4/19/19	0.00	0.00	Packaging 1 - 1		
							Packaging 1 - 2		
							Packaging 1 - 3		
							Packaging 1 - 4		
							Packaging 1 - 5		
							Packaging 1 - 6		
							Packaging 1 - 7		
							Packaging 1 - 8		
							Packaging 1 - 9		
							Packaging 1 - 10		
							Packaging 1 - 11		
							Packaging 1 - 12		
							Packaging 1 - 13		
							Packaging 1 - 14		
							Packaging 1 - 15		
							Packaging 1 - 16		
							Packaging 1 - 17		
							Packaging 1 - 18		
							Packaging 1 - 19		
							Packaging 1 - 20		
							Packaging 1 - 21		
							Packaging 1 - 22		
							Packaging 1 - 23		
							Packaging 1 - 24		
							Packaging 1 - 25		
							Packaging 1 - 26		
							Packaging 1 - 27		
							Packaging 1 - 28		
							Packaging 1 - 29		
							Packaging 1 - 30		

GP 19-03-28

NCR: 19-1253

				Packaging 1 - 31	
				Packaging 1 - 32	
				Packaging 1 - 33	
				Packaging 1 - 34	
				Packaging 1 - 35	
				Packaging 1 - 36	
120 Crosstubes - Bend - 2 - B4B	1 pcs	4/19/19	0.00 4.32	Crosstubes - Bend - B4B	GP 19-03-28
130 QC 15	1 pcs	4/19/19	0.00 0.00	QC 15 - 12	
				QC 15 - 3	
				QC 15 - 47	
				QC 15 - 49	
				QC 15 - 58	
				QC 15 - 9	APR 02 2019 10
140 Crosstubes - 2 - B4B	1 pcs	4/19/19	0.00 2.87	Crosstubes - 1 - B4B	
				Crosstubes - 2 - B4B	GP 19-04-03
				Crosstubes - 3 - B4B	
				Crosstubes - 4 - B4B	
150 Crosstubes - 3 - B4B	1 pcs	4/19/19	0.00 0.00	Crosstubes - 1 - B4B	
				Crosstubes - 2 - B4B	
				Crosstubes - 3 - B4B	GP 19-04-03
				Crosstubes - 4 - B4B	
160 QC 7	1 pcs	4/19/19	0.00 0.00	QC 7 - 10	
				QC 7 - 13	
				QC 7 - 14	
				QC 7 - 15	
				QC 7 - 17	
				QC 7 - 18	
				QC 7 - 19	
				QC 7 - 2	
				QC 7 - 28	
				QC 7 - 3	
				QC 7 - 30	
				QC 7 - 34	
				QC 7 - 36	
				QC 7 - 37	
				QC 7 - 41	
				QC 7 - 47	
				QC 7 - 48	
				QC 7 - 51	
				QC 7 - 58	
				QC 7 - 59	
				QC 7 - 60	
				QC 7 - 9	DAS
				QC 7 - 68	APR 03 2019 68
				QC 7 - 50	9-89
				QC 7 - 67	
				QC 7 - 40	
170 QC 5	1 pcs	4/19/19	0.00 0.00	QC 5 - 10	
				QC 5 - 12	
				QC 5 - 17	
				QC 5 - 18	
				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 42	
				QC 5 - 43	
				QC 5 - 49	
				Plex 3/18/19 9:02 AM Dart.lajeunesse.marie	

					QC 5 - 51	
					QC 5 - 58	DAS
					QC 5 - 68	APR 03 2019 68
					QC 5 - 9	9-89
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
180	Outsource - 2 - NDT per QSI038	1 pcs	4/19/19		SKY002-VC	P10043076 APR 08 2019 DAS 3 9-89
190	QC 5	1 pcs	4/19/19	0.00 0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	APR 11 2019
					QC 5 - 42	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
					QC 5 - 10	
200	QC 5	1 pcs	4/19/19	0.00 0.00	QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 42	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	APR 11 2019 DAS 68 9-89
					QC 5 - 9	
					QC 5 - 50	
205	Spray Paint - 2 - B4B	1 pcs	4/19/19	0.00 0.00	Spray Paint - 1 - B4B	AD 19-5-12
					Spray Paint - 2 - B4B	
					Spray Paint - 3 - B4B	
					Spray Paint - 4 - B4B	
210	Outsource - 2 - NDT per QSI038	1 pcs	4/19/19		ATE003-VC	NR
215	Packaging 2-1 - Receive - B4B	1 pcs	4/19/19	0.00 0.00	Packaging 2 - 1 - B4B	NR
					Packaging 2 - 2 - B4B	
					Packaging 2 - 3 - B4B	
					Packaging 2 - 5 - B4B	
					Packaging 2 - 4 - B4B	
					Packaging 2 - 6 - B4B	
					Packaging 2 - 7 - B4B	
					Packaging 2 - 8 - B4B	

					Packaging 2 - 9 - B4B	
					Packaging 2 - 10 - B4B	
					Packaging 2 - 11 - B4B	
					Packaging 2 - 12 - B4B	
					Packaging 2 - 13 - B4B	
					Packaging 2 - 14 - B4B	
					Packaging 2 - 15 - B4B	
					Packaging 2 - 16 - B4B	
					Packaging 2 - 17 - B4B	
					Packaging 2 - 18 - B4B	
					Packaging 2 - 19 - B4B	
					Packaging 2 - 20 - B4B	
					Packaging 2 - 21 - B4B	
					Packaging 2 - 22 - B4B	
					Packaging 2 - 23 - B4B	
					Packaging 2 - 24 - B4B	
					Packaging 2 - 25 - B4B	
					Packaging 2 - 26 - B4B	
					Packaging 2 - 27 - B4B	
					Packaging 2 - 28 - B4B	
					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
220 QC 14	1 pcs	4/19/19	0.00 0.00		QC 14 - 15	
					QC 14 - 2	
					QC 14 - 34	
					QC 14 - 41	• 18-5-14
					QC 14 - 51	
					QC 14 - 58	
					QC 14 - 59	
					QC 14 - 9	
					QC 14 - 68	
					QC 14 - 40	
					QC 14 - 19	
230 Crosstubes - 4 - B4B	1 pcs	4/19/19	0.00 2.87		Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	• 18-5-14
240 QC 5	1 pcs	4/19/19	0.00 0.00		QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 42	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	

DAS
MAY 16 2019 68
9-89

				QC 5 - 30	
				QC 5 - 40	
250 Packaging 1-1 - Pick Kit - B4B	1 pcs	4/19/19	0.00 0.00	Packaging 1 - 1 - B4B	
				Packaging 1 - 2 - B4B	
				Packaging 1 - 3 - B4B	
				Packaging 1 - 4 - B4B	
				Packaging 1 - 5 - B4B	
				Packaging 1 - 6 - B4B	
				Packaging 1 - 7 - B4B	
				Packaging 1 - 8 - B4B	
				Packaging 1 - 9 - B4B	
				Packaging 1 - 10 - B4B	
				Packaging 1 - 11 - B4B	
				Packaging 1 - 12 - B4B	
				Packaging 1 - 13 - B4B	
				Packaging 1 - 14 - B4B	
				Packaging 1 - 15 - B4B	
				Packaging 1 - 16 - B4B	
				Packaging 1 - 17 - B4B	
				Packaging 1 - 18 - B4B	
				Packaging 1 - 19 - B4B	
				Packaging 1 - 20 - B4B	
				Packaging 1 - 21 - B4B	
				Packaging 1 - 22 - B4B	
				Packaging 1 - 23 - B4B	pc
				Packaging 1 - 24 - B4B	
				Packaging 1 - 25 - B4B	
				Packaging 1 - 26 - B4B	
				Packaging 1 - 27 - B4B	
				Packaging 1 - 28 - B4B	
				Packaging 1 - 29 - B4B	
				Packaging 1 - 30 - B4B	
				Packaging 1 - 31 - B4B	
				Packaging 1 - 32 - B4B	
				Packaging 1 - 33 - B4B	
				Packaging 1 - 34 - B4B	
				Packaging 1 - 35 - B4B	
				Packaging 1 - 36 - B4B	
260 QC 4	1 pcs	4/19/19	0.00 0.00	QC 4 - 28	
				QC 4 - 42	
				QC 4 - 58	Smt
				QC 4 - 69	
				QC 4 - 9	
				QC 4 - 46	
270 Packaging 3-1 - Stock - B4B	1 pcs	4/19/19	0.00 0.00	Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	Smt
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	

MAY 21 2019

pc

smf

19/8/22

smf

19/8/22

				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
275 DC - 1 - B4B	1 pcs	4/19/19	0.00 0.00	DC - 1 - B4B	DAS
				DC - 2 - B4B	21 MAY 22 2019
280 QC 21 - FG	1 pcs	4/19/19	0.00 0.00	QC 21 - FG - 21	8-85
				QC 21 - FG - 70	8-86
				QC 21 - SA - 53	21 MAY 22 2019

Part Op 110 - (Pick Kit)
Descriptions: 120 - (CNC Alpha 160 Bender) Bend tube as per Dwg D206-667-147 using CNC bender program
130 - (QC15- Crosstube Dimensional Check)
140 - (Crosstubes) ***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** , VERIFIED BY: ***** 1- Drill holes & ream using drill Jlg DT8541 & DT8542 as per Dwg D206-667-147. Drill all (3) top holes. Holes facing inboard. ***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** , VERIFIED BY: ***** 2- Drill Fwd rivet holes using drill Jlg DT8787 fwd as per Dwg D206-667-147. Note: Fwd side has 3x top holes.Facing inboard. 3- C'sink holes as per Dwg D206-667-147. Allow rivet to sit below surface to compensate for paint. 4- Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins .Drill ONLY 2 top holes ONLY plug most bottom holes to prevent accidental drilling. Drill holes and ream using drill Jig DT8541 & DT8542 as per Dwg D206-667-147. Drill only the top (2) holes. ***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** , VERIFIED BY: ***** 5- Drill Aft rivet holes using drill Jlg
150 - ***[MCrosstubes Chemical Conversion) IMMEDIATELY AFTER GRINDING*** 1- PRESSURE WASH X-TUBE INSIDE AND OUT 2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT AS PER QSI005.
160 - (QC7-Inspect Chemical Conversion Coat)
170 - (QC5- Inspect part completeness to step on W/O)
180 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order
190 - (QC5- Inspect part completeness to step on W/O) *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Ensure copy of NDT results attached to work order.
200 - (QC5- Inspect part completeness to step on W/O) *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***
210 - ISSUE PO ***** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** **VERIFY BY BATCH # TO MATCH W/O *****PART # TO MATCH W/O *****MASK SCRIBE B# & P# AND VERIFY*** 1-Prime inside and outside crosstube as per QSI 005 4.2 2-Paint outside crosstube as per QSI 005 4.2 PRIME: Start Time: Finish Time: PAINT:DELFLEET BLUE 5156219 Start Time: Finish Time: CLEAR DELFLEET B 5173359
215 - (Receive & Inspect for Damage & Mat'l Certs)
220 - (QC14- Inspect Spray Paint) Wrap in plastic bag to protect from scratches ***VERIFY BY BATCH # TO MATCH W/O *****PART # TO MATCH W/O *****
230 - (Crosstubes) INSTALL GROUNDING CLAMP AND SEAL WITH SIKAFLEX AS PER DWG A/R SIKAFLEX BATCH: 1-Abraze mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg 2-Install supports with Proseal 890 per D206-667-147 and QSI 015 A/R Proseal 890 Batch: 5146134 EXP: 10/19 3-Install supports clamps Using Dt9565 as per Dwg D206-667-147 ,Torque to 80-100 IN-LBS. PROSEAL CURE TIME 72 HOURS: Start: Finish: 4-Install nut plates as per Dwg D206-667-147. Touch-up rivet heads with Imron paint. 5- Install grounding strap as per dwg (D206-667-017)
240 - (QC5- Inspect part completeness to step on W/O) QC5- Inspect part completeness to step on W/O ***RE-CHECK TORQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.*** **VERIFY RESISTANCE AS PER NOTE 18 AND DWG*** **VERIFY BY BATCH # TO MATCH W/O *****PART # TO MATCH W/O *****MASK SCRIBE B# & P# AND **VERIFY BY *****PART # TO MATCH W/O *****

Printer: 5171937 20

VERIFY***
250 - (Pick Kit)
260 - (QC4- 100% Inspect kits for completeness) ***VERIFY BY _____ BATCH # TO MATCH W/O
_____*_*_*VERIFY BY _____ PART # TO MATCH W/O
270 - (Identify as per dwg & Stock Location: _____) Identify and pack for shipping as per PPP D206-667-107
Location:FG035
275 - Photocopy bluefile and create labels as per PPP D206-667-107 chg 003
280 - (QC21- Final Inspection - Work Order Release)

009895

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D206-667-147TRN	Crosstube Assembly, Mid Fwd	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	5012947
D206-667-017	Grounding Strap	1 pcs (1 ea)	230-Crosstubes - 4 - B4B	
D2873-043	Nut Plate Assembly	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
D2873-045	Nut Plate Assembly	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	
D2891-1	Support 2.25	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	
D3595-063-395	Rubber Cushion 0.63" Wide X 3.95" Long	4 pcs (4 ea)	230-Crosstubes - 4 - B4B	
MS20601-AD4W8	Rivet	14 Ea (14 ea)	230-Crosstubes - 4 - B4B	
MS21920-20	Clamp	4 Ea (4 ea)	230-Crosstubes - 4 - B4B	
AN742D36	Plain Clamp Loop	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
MS21042-3	Nut use MS21042L3 per QSI 017	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
MS27039-1-08	Screw	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
MS9165-05	Bracket	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
NAS1149C0332R	Washer	4 Ea (4 ea)	230-Crosstubes - 4 - B4B	
AN5-30A	Bolt	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	5104362
AN5-32A	Bolt	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	5058983
AN5-7A	Bolt	10 Ea (10 ea)	250-Packaging 1-1 - Pick Kit - B4B	5112335
AN970-4	Washer	12 Ea (12 ea)	250-Packaging 1-1 - Pick Kit - B4B	5166689
MS21042L5	Nut	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	5166689
NAS1149D0563J	Washer	18 Ea (18 ea)	250-Packaging 1-1 - Pick Kit - B4B	5184258

DAS
35
9-89

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit	D206-667-147TRN	1	4	0
230-Crosstubes - 4 - B4B	AN742D36	2	15	0
	D206-667-017 5180074	①	12	0
	D2873-043 5145877	② 5133733	75	0
	D2873-045 5133723	②	42	0
	D2891-1 5171174	②	10	0
	D3595-063-395 5058683	④	57	0
	MS20601-AD4W8 5103847	④ 515662	182	0
	MS21042-3	2	662	0
	MS21920-20 5103843	④	103	0
	MS27039-1-08	2	546	0
	MS9165-05	2	11	0
	NAS1149C0332R	4	5,103	0
250-Packaging 1-1 - Pick Kit - B4B	AN5-30A	4	30	0
	AN5-32A	4	385	0
	AN5-7A	10	3,153	0
	AN970-4	12	72	0
	MS21042L5	4	723	0
	NAS1149D0563J	18	1,495	0

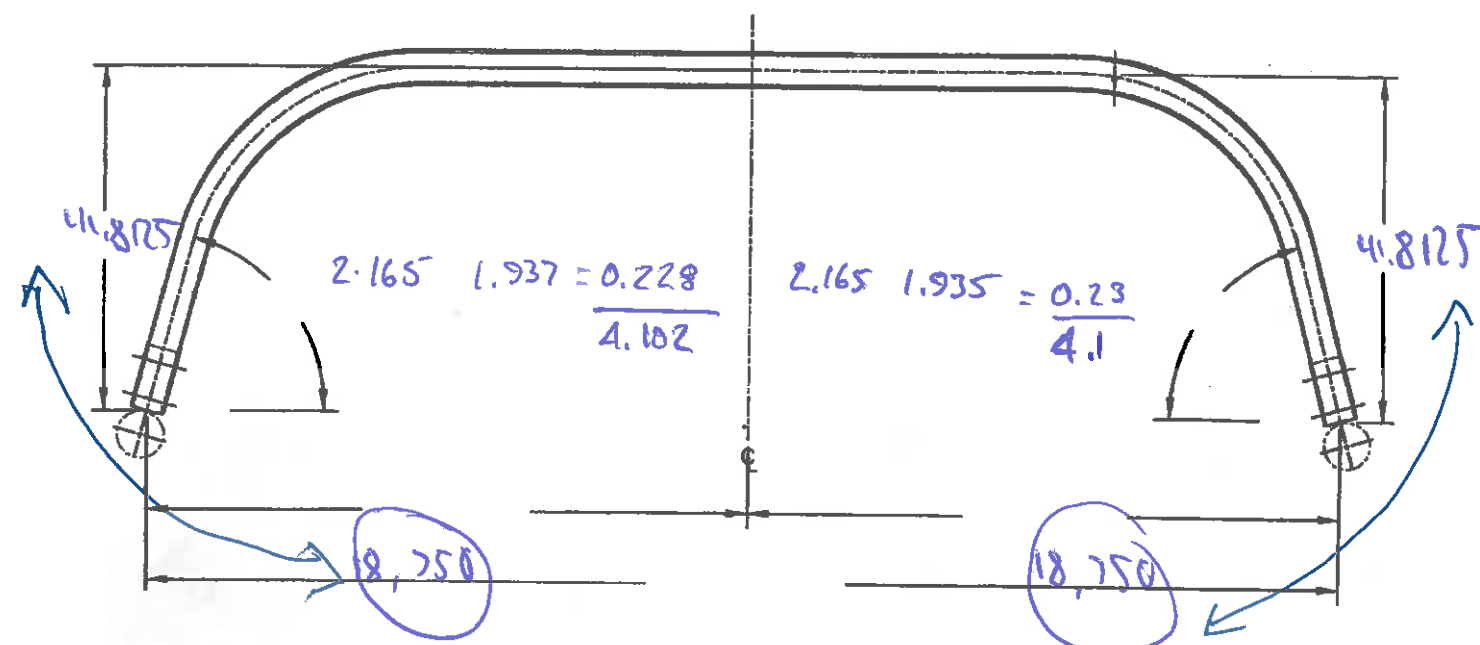
AA
19.05.17-

Part Specifications

Specifications could not be found.

DART AEROSPACE LTD		Work Order:	192115
Description: Crosstube Mid Fwd (206L)		Part Number:	D206-667-107
Inspection Dwg: D206-667-147 Rev: A		Page 1 of 1	

Required Dimension	Min	Max
Height	18.34	18.60
1/2 Span	41.79	42.05
Angle	54°	56°
Total Span	83.59	84.09
Bending Passes	10	--
Crushing	--	6%



	Side A	Side B
Bending Passes	11	13
Crushing	5.6%	5.6%
Comments		

Acceptable
9/14/3/26

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	12.02.15	New Issue	KJ	
B	12.04.16	Added bending, crushing dimensions	KJ	

Item	Qty	Part Number	Description
-147			
1	X	D208-867-147	CROSSTUBE ASSEMBLY (208L MID FWD)
2	1	D8002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2881-1	SUPPORT
6	4	D3585-083-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS8302B-4-8)
9	4/R	PROSEAL	SEALANT, AMS-S-8802 CLASS B-2
10	2	AN742D36	CLAMP
11	2	MS9165-05	ANGLE BRACKET
12	2	MS21042L3	NUT (OR MS21042-3)
13	2	MS27039-1-08	SCREW
14	4	NAS1149C0332R	WASHER (OR AN660C10)

GENERAL NOTES:

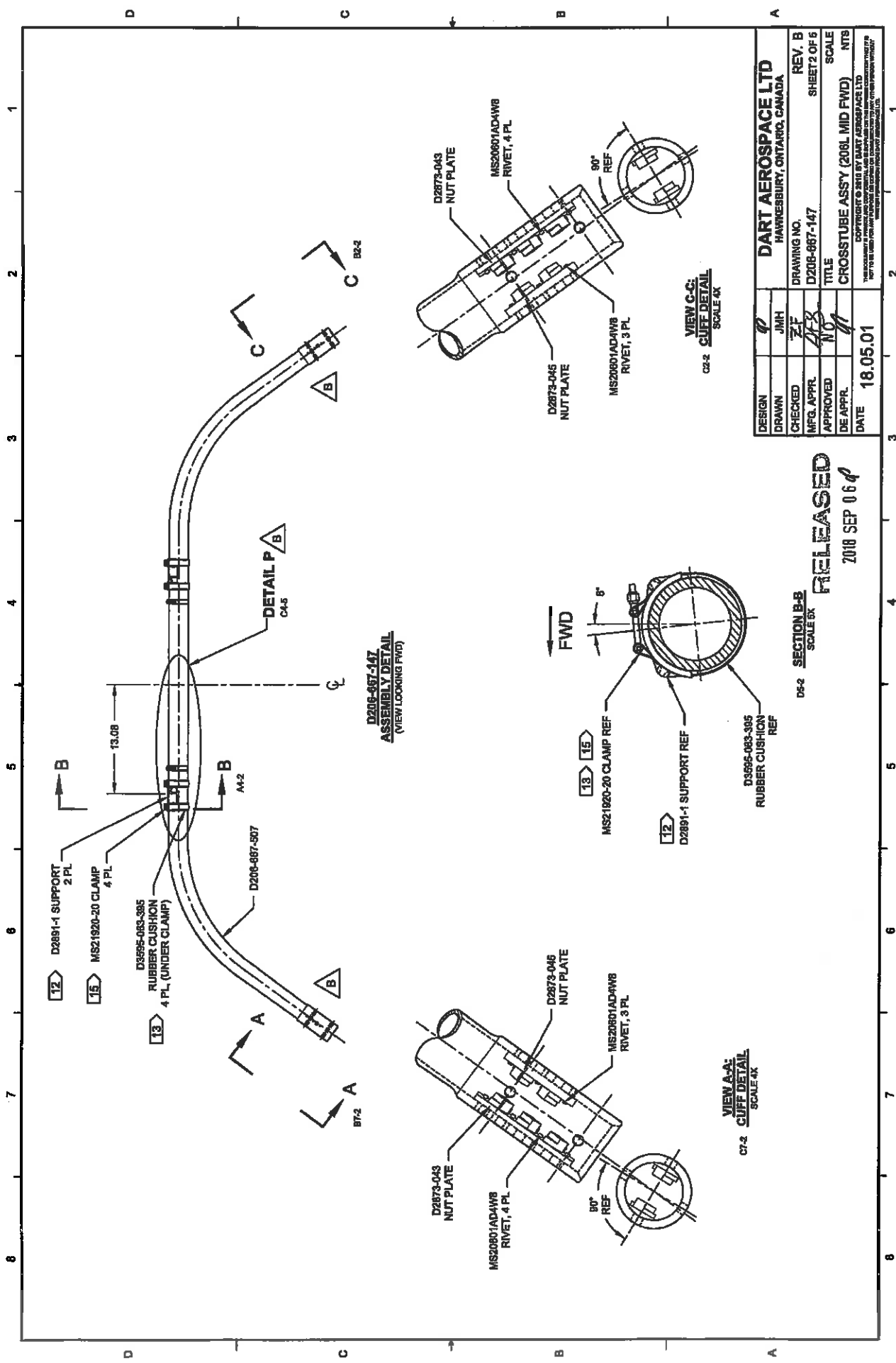
- 1) MATERIAL: MANUFACTURED FROM D6002-115
- 2) FINISH: FINISHED LENGTH = 99.84±0.020
CHEMICAL CONVERSION COAT PER DART Q81 005 4.1
PRIME INSIDE AND OUTSIDE PER DART Q81 005 4.2
PAINT OUTSIDE PER DART Q81 005 4.2
- 3) TOLERANCES ARE PER DART Q81 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D208-867-147" AND BATCH NUMBER ON INSIDE OF CUFF PER DART Q81 044 8.4 (VIBRATING STYLUS).
- 7) WEIGHT: 15.0 lbs (-597 = 12.84)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY.
- 10) TRANSITION SHOULD BE SMOOTH.
- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER Q81 038.
- 13) TO INSTALL D2881-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 160-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 880 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 14) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3585-083-395 RUBBER CUSHIONS TO SECURE THE D2881-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 15) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 16) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN RE-CHECK TORQUE ON CLAMPS AFTER PAINTING.
- 17) MASK AREA UNDER CLAMP PRIOR TO PAINTING.
- 18) SEAL EDGES WHERE AN742D36 CLAMP MEETS WITH THE CROSSTUBE USING SIKAFLEX-241/
- 19) -281 OR MIL-S-8802 CLASS B2 OR PROSEAL 880 SEALANT.
- 20) PERFORM RESISTANCE CHECK TO ENSURE MAX RESISTANCE IS 10 MILLIOHMS.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 192115 MCS
190318

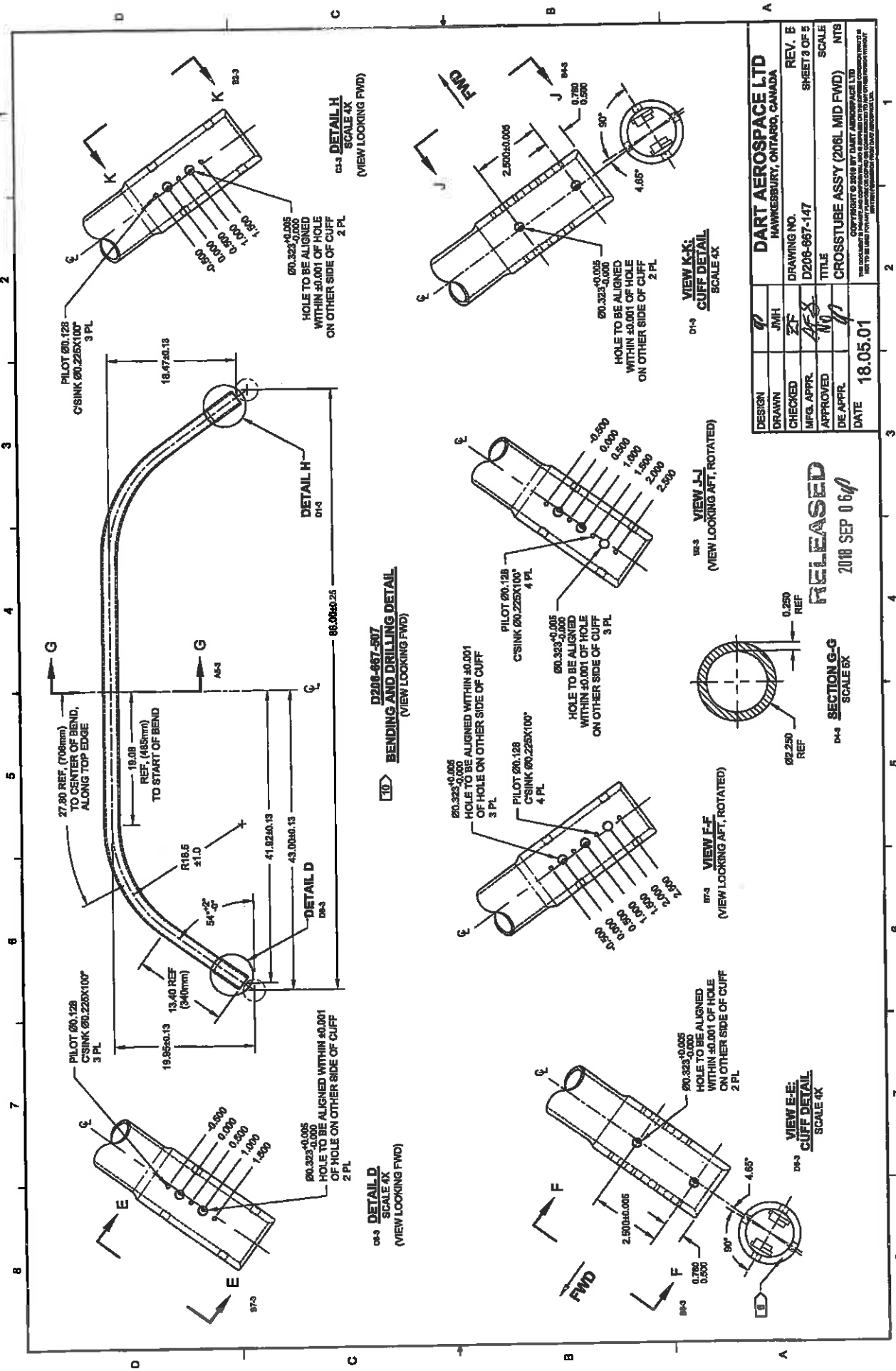
RELEASED

2018 SEP 06
ENJW/TJ

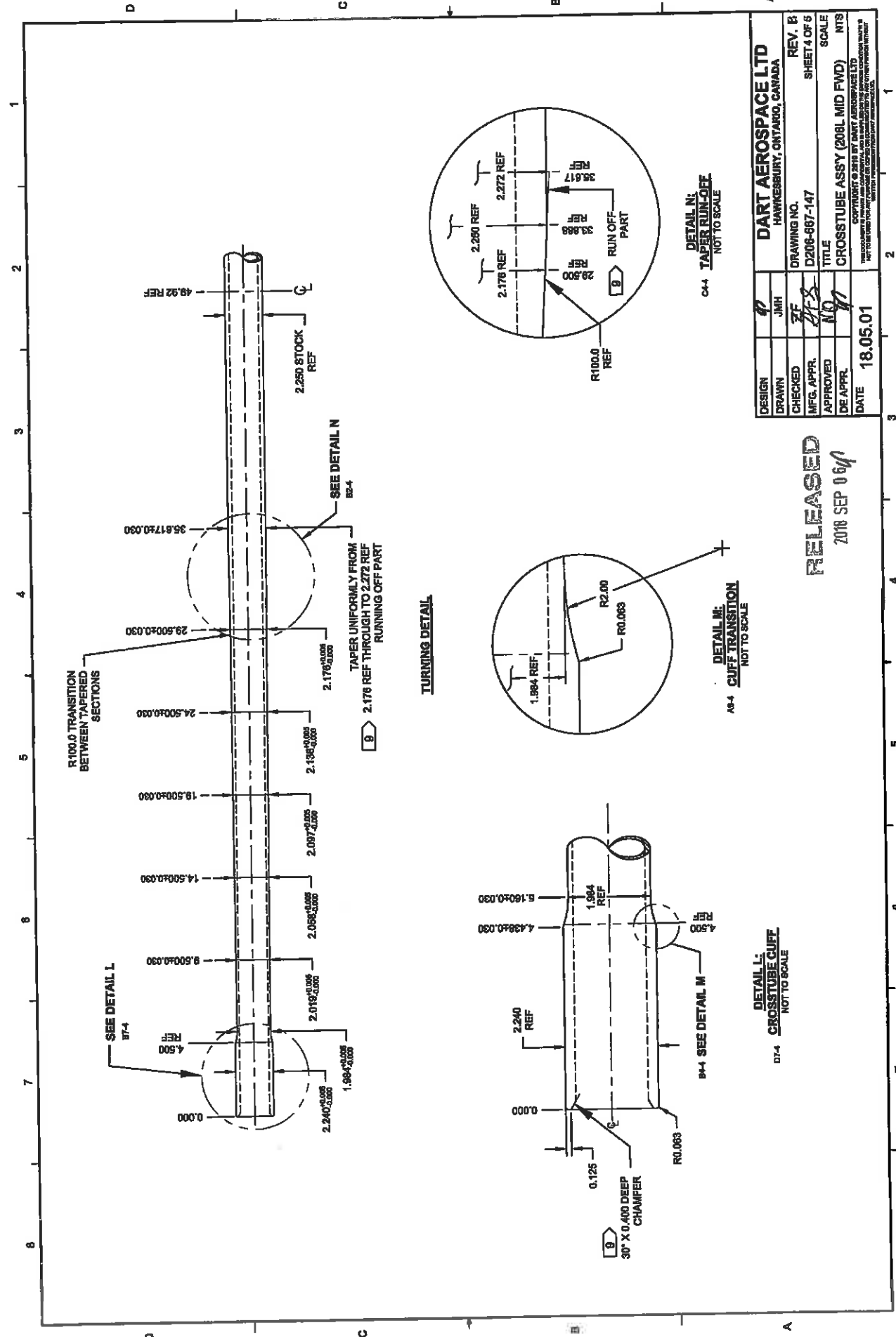
B		REVISE SHEET 2 ASSEMBLY DETAIL HOLE PATTERN PER CAR18-224. UPDATE PARTS LIST AND GENERAL NOTES 12 & 13 TO INCORPORATE DED A-1. ADD ITEMS 10-14 TO PARTS LIST. ADD GENERAL NOTES 16-18 AND ADD SHEET 5 TO INCORPORATE DED A-2.		JMH	18.05.01
A		NEW ISSUE		CP	10.11.23
REV.	DESIGN	DESCRIPTION			
DRAWN	JMH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
CHECKED	JF	DRAWING NO. REV. B			
MFG. APPL	JF	D208-867-147 SHEET 1 OF 5			
APPROVED	N	TITLE SCALE			
DE APPL	JF	CROSSTUBE ASSY (208L MID FWD) NTS			
DATE	18.05.01	COMPANY: DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED IT MAY BE RELEASED FOR EXTERNAL USE WITHOUT LIMITATION			



RELEASED
2018 SEP 06



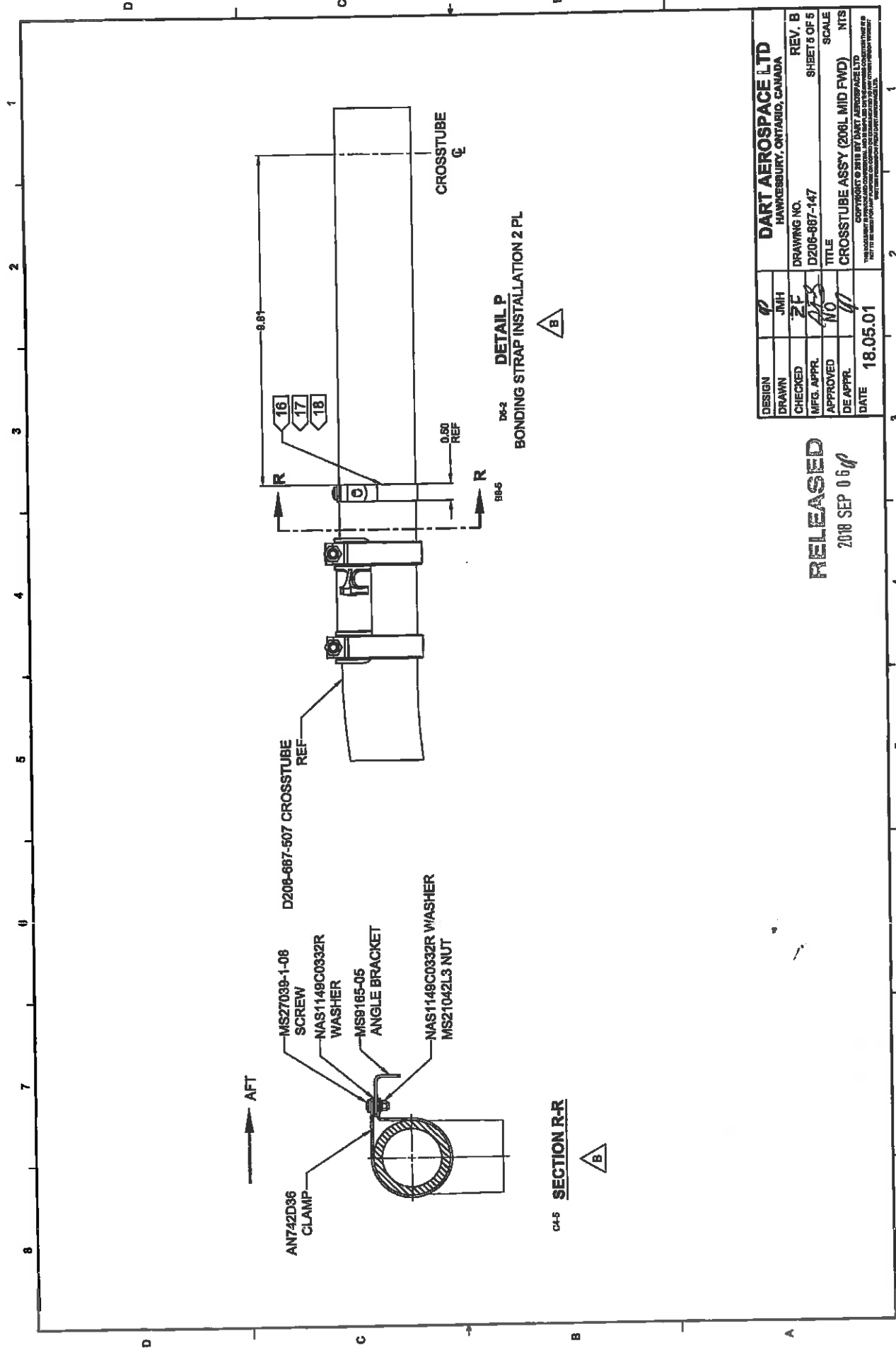
RELEASED
2018 SEP 06



DESIGN	0	DART AEROSPACE LTD	REV. B
DRAWN	JMH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	TF	DRAWING NO.	SHEET 4 OF 6
MFG. APPR.	TF	D206-887-147	SCALE
DE APPR.	N/A	TITLE	NTS
DATE	18.05.01	CROSSTUBE ASSY (208L MID FWD)	

RELEASED
2018 SEP 06/1

THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED IN THE ORDER. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.



DESIGN	JMH	DART AEROSPACE LTD
DRAWN	JMH	HAWKSBURY, ONTARIO, CANADA
CHECKED	ZF	DRAWING NO.
MFG. APPR.	MS	D208-887-147
APPROVED	NO	TITLE
DE APPR.	NO	CROSSTUBE ASSY (208L MID FWD)
DATE	18.05.01	SCALE
		NTS

RELEASED
2018 SEP 06

CONFIDENTIAL © 2018 BY DART AEROSPACE LTD
THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

Entered: _____

Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE



Route update only ☐

NCR No. _____

Job: _____ Part No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐		DEPARTMENT / PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐																													
Date :	Sequence #:	QTY Affected :		MRB (QS1042)																													
Description Work Order Deviation		Disposition																															
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY <table border="1"><tr><td>Pressure/Forced</td><td>Contamination</td><td>Power Loss/Surge</td><td>Positioned Wrong</td></tr><tr><td>Bending</td><td>Misaligned/off center</td><td>Folio/Program</td><td>Outside Tolerance</td></tr><tr><td>Crushing</td><td>BOM/Route</td><td>Grain Direction</td><td>Drawing</td></tr><tr><td>Cracks</td><td>Broken/Damage/Defect</td><td>Weld</td><td>Finish</td></tr><tr><td>Crimp/Kink/Ripple/Wave/Twist</td><td>Incomplete/Unclear Instructions</td><td>Wrong Stock Pulled</td><td>Part Lost/Missing</td></tr><tr><td>Marks/Chatter</td><td>Drill Holes</td><td>Out of Sequence</td><td>Misread</td></tr><tr><td>Mislabeled</td><td>Fit/Function</td><td>Off-set/Set-up</td><td></td></tr></table>				Pressure/Forced	Contamination	Power Loss/Surge	Positioned Wrong	Bending	Misaligned/off center	Folio/Program	Outside Tolerance	Crushing	BOM/Route	Grain Direction	Drawing	Cracks	Broken/Damage/Defect	Weld	Finish	Crimp/Kink/Ripple/Wave/Twist	Incomplete/Unclear Instructions	Wrong Stock Pulled	Part Lost/Missing	Marks/Chatter	Drill Holes	Out of Sequence	Misread	Mislabeled	Fit/Function	Off-set/Set-up	
						Pressure/Forced	Contamination	Power Loss/Surge	Positioned Wrong																								
						Bending	Misaligned/off center	Folio/Program	Outside Tolerance																								
						Crushing	BOM/Route	Grain Direction	Drawing																								
Cracks	Broken/Damage/Defect	Weld	Finish																														
Crimp/Kink/Ripple/Wave/Twist	Incomplete/Unclear Instructions	Wrong Stock Pulled	Part Lost/Missing																														
Marks/Chatter	Drill Holes	Out of Sequence	Misread																														
Mislabeled	Fit/Function	Off-set/Set-up																															
Completed By																																	
Lead hand / Supervisor																																	
QC / QA Coordinator																																	

Entered: mf
July 5, 2019
Date:

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

Route update only ☐



NCR No. 19-7253

Job: 192115
Part No. 0206-6071078C

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☒

DEPARTMENT/PROCESS

Cross tube ☒
Small Fab ☐
Finishing ☐
Skid-tube ☐
Machining ☐
Large Fab ☐
Eng. (Non-AW) ☐
Prod. Eng. Coord. ☐
Rec/Store/Packaging ☐
Engineering ☐
Water Jet ☐
Supplier ☐
Quality ☐

Date: 15/3/26 Sequence #: 1

QTY Affected:

Description Work Order Deviation

Disposition

Tube is bent by +6.28 over
nominal in height.

Acceptable

MRB (QS1042)

IMP
12 of 15/3/26

Completed By:

15/3/26

Lead hand / Supervisor

Juan Luc Menard

QC / QA Coordinator

DAS

55

9-89

July 5, 2019

Root Cause

Operator ☒
Manufacturing Process ☐
Equip/Tooling ☐
Handling/Preservation ☐
Material ☐
Product Improvement ☐
Process Improvement ☐
Human Factors ☐

FAULT CATEGORY

Pressure/Forced ☐
Bending ☐
Crushing ☐
Cracks ☐
Crimp/Kink/Ripple/Wave/Twist ☐
Marks/Chatter ☐
Mislabeled ☐
Other/Details: ☐
Contamination ☐
Misaligned/off center ☐
BOM/Route ☐
Broken/Damage/Defect ☐
Incomplete/Unclear Instructions ☐
Drill Holes ☐
Fit/Function ☐
Power Loss/Surge ☐
Folio/Program ☐
Grain Direction ☐
Weld ☐
Wrong Stock Pulled ☐
Out of Sequence ☐
Off-set/Set-up ☐
Positioned Wrong ☐
Outside Tolerance ☒
Drawing ☐
Finish ☐
Part Lost/Missing ☐
Misread ☐



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO043076



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO043076

PO Date: 4/3/19

Due Date: 4/11/19

**Purchase Order
Revision:**

Revision Date:

Ship-To Contact: Lavoie, Chantal
Phone: clavoie@dartaero.com

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

EMAILED
APR 10 2019

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	192114	D206- 667- 107BL	Fwd Crosstube - Mid Height 206L / L1 / L3 / L4, Blue TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	4/11/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	192115		1 X APR 11 2019	Firmed	-	4/11/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	192116		1 X APR 11 2019	Firmed	-	4/11/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
Sub Total:							3	0	3		\$395.63



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
PO043076



Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
2	192117	D206-667-207BL	Aft Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	4/11/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	192118			Firmed	-	4/11/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
Sub Total:							2	0	2		\$263.75
3	190489	D135-1027-251	Std Height Aft Crosstube - DO NOT USE ISSUE P/O: _____ C OF C IS REQUIRED	Firmed	-	4/11/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
4	191900	D135-1027-253	Mid Height Aft Crosstube - DO NOT USE ISSUE P/O: _____ C OF C IS REQUIRED	Firmed	-	4/11/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	191901			Firmed	-	4/11/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
Sub Total:							2	0	2		\$263.75
Grand Total:											\$1,055.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada
Tel (613) 632-5200

PURCHASE ORDER
PO043076



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

CL

Plex 4/10/19 12:39 PM dart.lavoie.chantal

		Work Order Traveler Sky Service F.B.O. Inc.		TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385	
10105 Ryan Avenue, Dorval, Quebec, H9P 1A2					
WO #: MWO39884	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO043076		
Descr:	PN:	S/N:	Qty: 1		
Make:	Model:	Reg:	A/C S/N:		
TSN:	CSN:	TSO:			
Task: UNSCHEDULED			Sequence: 1		

Work Required:

CARRY OUT NDT INSPECTION (LIQUID PENETRANT) ON 8 CROSSTUBES

ITEM ID: D135-1027-251 STB HEIGHT AFT CROSSTUBE

1 - WORK ORDER ID#: 190489

ITEM ID: D135-1027-253 MID HEIGHT AFT CROSSTUBE

2 - WORK ORDER ID#: 191900

3 - WORK ORDER ID#: 191901

ITEM ID: D206-667-107BL FWD CROSSTUBE - MID HEIGHT 206L / L1 / L3 / L4, BLUE.

4 - WORK ORDER ID#: 192114

5 - WORK ORDER ID#: 192115

6 - WORK ORDER ID#: 192116

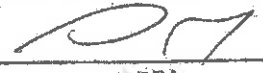
ITEM ID: D206-667-207BL

7 - WORK ORDER ID#: 192117

8 - WORK ORDER ID#: 192118

Action Taken:						Date:	Initial/Stamp:
LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE (ITEMS 1-8) AS PER ASTM1417M-16						APR 05 2019	
NO CRACK FOUND							
PEN ZL-37, MPO23206, CLEANER SKC-S MPO15030, EMU. MPO15896, DEV. MPO23451, UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:			Date: APR 05 2019
Name: ANTONIO MARCHETTA			

REF ONLY

DART AEROSPACE LTD.

IIN-D206-667
Page 18 of 19

5.2 MID-HEIGHT CROSSTUBES

Item	Qty -107	Qty -207	Part Number	Description
	X		D206-667-107	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 MID FWD
		X	D206-667-207	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 MID AFT
7	1		D206-667-147	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 MID FWD
8		1	D206-667-247	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 MID AFT
10	*2		D2891-1	SUPPORT
11		*2	D2892-1	SUPPORT
13	*4		D3595-063-395	RUBBER CUSHION
14		*4	D3595-063-450	RUBBER CUSHION
16	*4		MS21920-20	CLAMP
17		*4	MS21920-22	CLAMP
19	4		AN5-32A	BOLT
20		4	AN5-34A	BOLT
21	4	4	MS21042L5	NUT (OR MS21042-5)
22	8	8	NAS1149C0563J	WASHER (OR AN950JD516)
40	*2	*2	D2873-043	NUT PLATE
41	*2	*2	D2873-045	NUT PLATE
44	10		AN5-7A	BOLT
45		10	AN5-10A	BOLT
46	4		AN5-33A	BOLT
47		4	AN5-32A	BOLT
48	12		AN970-4	WASHER (OPTIONAL)
50	10	10	NAS1149C0563J	WASHER (OR AN960JD516)

*REFERENCE ONLY. PARTS ARE INCLUDED IN D206-667-147/-247 ASSEMBLIES ABOVE

Change Record

PAGE 1 OF 1

Part Number: D206-667-107/-107BLDescription: CROSSTUBE INSTALLATION, 206L/L1/L3/L4 MID FWD[illegible]